Fresh Air Ventilation

Case Study

HBS Group Southern Hampshire

Making a World of Difference

Fresh air ventilation that's so good installers use it themselves

Heating and ventilation specialist HBS Group Southern, based in Whiteley, Hampshire, is expert in providing heating and cooling systems to the industrial and commercial sector.

Its team of experienced, skilled professionals have taken the company from humble beginnings in 1950, with just 5 employees, to one of the fastest-growing, family owned companies in the South-East.

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Conventional ventilation systems, such as extractor fans do not work effectively within air tight buildings because of the negative air pressures involved, but Lossnay suffers no loss of performance and meets regulations fully.

So when it came to selecting a fresh air ventilation system for its new Head Office the company was well placed to select the best.

“Our installers are tasked with ensuring clients receive the most energy efficient, cost-effective solutions possible and because we appreciate the quality of the product and the technical back-up service they offer, we sell and install a range of Mitsubishi Electric equipment,” said Kevin Bull, Managing Director of HBS Group Southern. “We wanted the same high standard of kit for ourselves so we chose to install a selection of their products, including the Lossnay RX5 fresh air ventilation system.”

Lossnay is an effective ventilation system that works alongside the City Multi Variable Refrigerant Flow (VRF) air conditioning that has also been installed, to provide employees with the optimum environment in which to work comfortably and safely.

The Lossnay technology reduces overall energy costs by extracting stale air from a room and recovering the heating or cooling energy from it; this energy is then used to warm or cool incoming fresh air. Using recovered energy means that the system can save up to 30% on the initial capital costs of a heating and cooling plant.

The cleverness behind the energy efficiency of Lossnay lies in the construction of its core which enables the exchange of both latent heat (humidity/moisture) and sensible heat (temperature).

This process allows a comfortable internal temperature to be maintained within a building whilst using minimal energy consumption.

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Since the introduction of Part L2 regulations (Part J in Scotland), new building design has changed and buildings are becoming more airtight, but the need for fresh air remains the same posing tough new challenges for modern design.

A diaphragm of ultra-thin paper enables the unit to achieve superior heat transfer efficiency and dramatically increases moisture permeability, whilst acting as a barrier against air leakage.

The specially processed paper is constructed in corrugated form and layered in alternate directions to allow cross airflow to occur. This maximises heat recovery without allowing the supply and exhaust air to mix, thus ensuring that only fresh air is introduced.

The LGH Lossnay series offers a free cooling function and when the outdoor temperature is lower than the indoor air conditioned temperature, Lossnay will provide cool, fresh outdoor air to reduce the indoor air temperature therefore reducing the energy requirement and running costs.

It was important to the company that the move to their new headquarters should be quick and easy, so the ease with which the products could be installed helped them to achieve this.

“The building was new and as part of our offering to customers we wanted to use it to demonstrate how technologies can integrate and work together seamlessly,” said Kevin Bull. “To do this we installed Mitsubishi Electric’s Lossnay fresh air ventilation system, the City Multi VRF air conditioning with new controllers for energy saving, and an Ecodan air source heat pump and hot water cylinder to serve the under floor heating.

“It was an interesting and challenging project and working together in partnership we now have a reliable, energy-efficient solution to our heating and cooling needs that gives us great value for money with no reduction in performance. It even helps keep our carbon output down to a minimum.”

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HBS has also added photovoltaic panels (PV) to the roof. PV takes daylight and converts it into direct current (DC) electricity, which is then converted by an inverter to provide alternative current (AC) for use in powering items within the office (any surplus energy is sold back to the National Grid as part of a Government scheme called the feed in tariff). Together with the heating and cooling system this helps to make the building as energy and cost efficient as possible.

Since the inception of HBS the company has carried out a number of installations in a varied portfolio of developments, from sensitively restored heritage buildings to state-of-the-art new build projects.

Its long-term business objective is to help create an energy-efficient and sustainable future that will benefit not only the present generation, but generations to come and in partnership with Mitsubishi Electric and its products, HBS is on course to achieve its aim.

For further information on HBS Group Southern and its services, visit www.hbsgroupsouthern.co.uk or call 02380 406227.

For further information on Mitsubishi Electric's Lossnay range visit http://airconditioning.mitsubishielectric.co.uk or call 01707 282880.

Installation Summary

Lossnay LGH-200RX5-E and LGH-50RX5-E units provide mechanical heat recover ventilation

The system recovers around 80% of wasted heat from the outgoing exhaust air

Lossnay can work independently or alongside existing heating and cooling systems

The units also offer a free summer cooling function

MITSUBISHI ELECTRIC
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